

# Book Library API Documentation

## Books API

**Base Path:** /api/books

### Get All Books

- ✓ **Method:** GET
- ✓ **Endpoint:** /api/books
- ✓ **Description:** Retrieves a list of all books along with their currently available quantity.
- ✓ **Request Body:** None
- ✓ **Responses:**
  - ✓ 200 OK: Successfully retrieved the list. Returns a JSON array of book objects.  
quantity reflects the current available count.

```
✓ [
    {
        "id": 1,
        "title": "The Great Gatsby",
        "author": "F. Scott Fitzgerald",
        "description": "...",
        "quantity": 3
    },
    {
        "id": 2,
        "title": "To Kill a Mockingbird",
        "author": "Harper Lee",
        "description": "...",
        "quantity": 0
    }
]
```
  - ✓ 500 Internal Server Error: Server error.

## Add a New Book

- ✓ **Method:** POST
- ✓ **Endpoint:** /api/books
- ✓ **Description:** Adds a new book title to the library, specifying the initial available quantity (Admin functionality). 
- ✓ **Request Body:** JSON object including the initial quantity.

```
✓ {  
✓   "title": "1984",  
✓   "author": "George Orwell",  
✓   "description": "A dystopian novel.",  
✓   "quantity": 10  
✓ }
```
- ✓ **Responses:**
  - ✓ 201 Created: Book successfully added. Returns the new book object.

```
✓ {  
✓   "id": 3,  
✓   "title": "1984",  
✓   "author": "George Orwell",  
✓   "description": "A dystopian novel.",  
✓   "quantity": 10  
✓ }
```
  - ✓ 400 Bad Request: Invalid request body.
  - ✓ 401 Unauthorized / 403 Forbidden: User does not have admin privileges.
  - ✓ 500 Internal Server Error: Server error.

## Get Book Details

- ✓ **Method:** GET
- ✓ **Endpoint:** /api/books/:id
- ✓ **Description:** Retrieves details of a specific book, including its currently available quantity. 
- ✓ **URL Parameters:** id (integer): The unique identifier of the book.
- ✓ **Request Body:** None
- ✓ **Responses:**
  - ✓ 200 OK: Returns book details.
    - ✓ {
      - ✓ "id": 1,
      - ✓ "title": "The Great Gatsby",
      - ✓ "author": "F. Scott Fitzgerald",
      - ✓ "description": "...",
      - ✓ "quantity": 3
    - ✓ }
  - ✓ 404 Not Found: Book not found.
  - ✓ 500 Internal Server Error: Server error.

## Update a Book

- ✓ **Method:** PUT
- ✓ **Endpoint:** /api/books/:id
- ✓ **Description:** Updates book details, including the currently available quantity (Admin functionality). 
- ✓ **URL Parameters:** id (integer): The unique identifier of the book to update.
- ✓ **Request Body:** JSON object with fields to update.
  - ✓ {
    - ✓ "description": "An updated description.",
    - ✓ "quantity": 5
  - ✓ }

✓ **Responses:**

- ✓ 200 OK: Book details successfully updated.
  - ✓ {
    - ✓ "id": 1,
    - ✓ "title": "The Great Gatsby",
    - ✓ "author": "F. Scott Fitzgerald",
    - ✓ "description": "An updated description.",
    - ✓ "quantity": 5
  - ✓ }
- ✓ 400 Bad Request: Invalid request body.
- ✓ 401 Unauthorized / 403 Forbidden: User does not have admin privileges.
- ✓ 404 Not Found: Book with the specified ID was not found.
- ✓ 500 Internal Server Error: Server error.

## Delete a Book

✓ **Method:** DELETE

✓ **Endpoint:** /api/books/:id

✓ **Description:** Removes a book title from the library (Admin functionality). 

✓ **URL Parameters:** id (integer): The unique identifier of the book to delete.

✓ **Request Body:** None

✓ **Responses:**

- ✓ 204 No Content: Book deleted.
- ✓ 400 Bad Request: Cannot delete book if copies are currently borrowed.
- ✓ 401 Unauthorized / 403 Forbidden: User does not have admin privileges.
- ✓ 404 Not Found: Book not found.
- ✓ 500 Internal Server Error: Server error.

## Borrowing API

**Base Path:** /api

### Borrow a Book

- ✓ **Method:** POST
- ✓ **Endpoint:** /api/borrow/:id
- ✓ **Description:** Borrows one available copy of the specified book. 
- ✓ **URL Parameters:** id (integer): The book\_id to borrow.
- ✓ **Request Body:** JSON object with borrower\_name.
- ✓ { "borrower\_name": "Jane Doe" }
- ✓ **Responses:**
  - ✓ 201 Created: Book successfully borrowed.
    - ✓ {
    - ✓ "id": 5,
    - ✓ "book\_id": 1,
    - ✓ "borrower\_name": "Jane Doe",
    - ✓ "borrowed\_at": "2025-04-19T11:00:00.000Z"
    - ✓ }
  - ✓ 400 Bad Request: Book is out of stock or invalid request body.
  - ✓ 404 Not Found: Book not found.
  - ✓ 500 Internal Server Error: Server error.

## Get List of Borrowed Books

- ✓ **Method:** GET
- ✓ **Endpoint:** /api/borrowed
- ✓ **Description:** Retrieves the list of all currently active borrow records. 
- ✓ **Request Body:** None
- ✓ **Responses:**
  - ✓ 200 OK: Returns a JSON array of borrow records.
    - ✓ [
    - ✓ {
    - ✓ "borrowId": 1,
    - ✓ "book\_id": 2,
    - ✓ "title": "To Kill a Mockingbird",
    - ✓ "author": "Harper Lee",
    - ✓ "borrower\_name": "John Doe",
    - ✓ "borrowed\_at": "..."
    - ✓ }
    - ✓ ]
  - ✓ 500 Internal Server Error: Server error.

## Return a Borrowed Book

- ✓ **Method:** DELETE
- ✓ **Endpoint:** /api/borrowed/:id
- ✓ **Description:** Returns a specific borrowed book instance. 
- ✓ **URL Parameters:**
  - ✓ id (integer): The unique identifier of the **borrow record**.
- ✓ **Request Body:** None
- ✓ **Responses:**
  - ✓ 204 No Content: Book successfully returned.
  - ✓ 404 Not Found: Borrow record not found.
  - ✓ 500 Internal Server Error: Server error.